

Ad'd

I

REPORT ON THE HEALTH
OF
KNUTSFORD URBAN DISTRICT
FOR
THE YEAR 1963.





Digitized by the Internet Archive
in 2017 with funding from
Wellcome Library

<https://archive.org/details/b29539997>

KNUTSFORD URBAN DISTRICT COUNCIL.

MEMBERS OF THE COUNCIL.

Councillors J.W.Gledhill, J.P. (Chairman)
Mrs.M.C.Chorlton. (Vice Chairman)
A.N.Britten.
E.T.Bagley.
H.R.Fish.
J.W.Foster.
J.Kendrick.
A.W.Roberts.
R.U.Shepherd.
Mrs.I.E.Stevenson.
Dr.J.K.Walley.C.C.
G.Whalley.

MEMBERS OF THE HEALTH COMMITTEE

Councillors Mrs.M.C.Chorlton. (Chairman)
A.W.Roberts.
R.U.Shepherd.
Mrs.I.E.Stevenson.
Dr.J.K.Walley.C.C.
J.W.Gledhill, J.P. (Ex-Officio)

E.Morley.

Clerk of the Council.

OFFICERS OF THE PUBLIC HEALTH DEPARTMENT.

Medical Officer of Health -Dr.Wilfrid H.Parry, M.D., D.P.H., D.T.M.&H.
+Chief Public Health Inspector-Geo.R.Butler
and Cleansing Superintendent M.A.P.H.I.
Additional Public -P.Darbyshire,
Health Inspector M.A.P.H.I.

+Retired 31st.December 1963.

KNUTSFORD URBAN DISTRICT COUNCIL

Public Health Department,
Council Offices,
Knutsford.

To the Chairman and Members of the
Knutsford Urban District Council.

Ladies and Gentlemen,

I have pleasure in presenting my report on the health of the Urban District for the year 1963.

Population.

The Registrar General estimates the population for mid-1963 at 9,760 an increase of 90 on 1962.

Births.

Registered live births numbered 157 (80 Male, 77 Female) giving a rate of 15.1 per 1000 population, compared with 16.0 in 1962, a decrease of 0.9.

The rate for England and Wales was 18.2 an increase of 0.2 on the previous year. Of the 157 births, 154 (77 Males, 77 Females) were legitimate and three (all male) illegitimate. This is a 50% reduction in illegitimacy compared with 1962. There were 3 stillbirths (2 male, 1 female) compared with 2 (1 male, 1 female) the previous year. The rate was 18.7 per 1000 stillbirths compared with 12.7 in 1962.

This was the second year in which there were no deaths from tuberculosis. There were 22 deaths from all forms of cancer, as against 30 for 1962, a decrease of 8. Deaths from cancer of the lung and bronchus continued to fall, there being only 1 male case compared with 3 cases (2 male, 1 female) in 1962 and 7 (6 male 1 female) in 1961.

Despite an overall decrease in deaths from malignant diseases, there was a 50% increase in deaths from breast cancer (4 compared with 2 in 1962) and 2 deaths from uterine cancer in 1963: there being none in 1962.

The death rate from all forms of cancer was 2.2 per 1,000 population and that from cancer of lung and bronchus 0.1 compared with 2.2 and 0.08 respectively for the whole of the country.

There was an overall decrease in deaths attributable to disease of the cerebro - and cardio-vascular systems. A total of 112 deaths (150 in 1962), of which 30 were coronary artery disease (32 in 1962), 40 to other diseases of the heart (50 in 1961) and 42 to vascular lesions of the brain (68 in 1962).

It is really appalling to report 7 deaths due to motor vehicle accidents compared with none in 1962. It is hoped that the increasing use of the M6 motorway will further curtail road deaths. During the year the new motorway ambulance station at Knutsford came into use and it has already proved its great value in reducing the time taken for accident cases to be treated and speeded on their way to hospital.

There were 3 female suicide deaths compared with 2 male deaths in 1962 and none in 1961.

Infant Mortality.

Deaths of infants under 1 year of age registered during 1963 was the same as for the previous year viz: 3. The rate per 1,000 live births for 1963 was 19.1 compared with 19.3 in 1962: whilst the rate for England and Wales was 21.0

The number of neonatal deaths was 2 (the same as in 1962) giving a rate of 12.7 compared with 12.9 in 1962. The rate for England and Wales for 1963 was 14.2.

Maternal Mortality.

There were no maternal deaths during the year. This is the third year running, in which there have been no deaths from puerperal or post abortive sepsis. The last maternal death occurred in 1960.

Infectious Diseases.

There were 264 cases of infectious disease notified during the year, compared with 8 in 1962.

Two hundred and eighteen of these were measles (4 in 1962 and 175 in 1961). Of the remainder 41 were due to clostridium welchii food poisoning.

Clostridium Welchii Food Poisoning.

Clostridium Welchii food poisoning affected 41 elderly persons in Cranford Lodge during the evening of Saturday and the early morning of Sunday, December 29-30 1962. Twenty five (60.9%) were hospital patients (3 fatal cases) and 16 (39.1%) were inmates of the welfare home. Both sliced and minced ham were thought to be the vehicle of infection.

Heat resistant Cl. Welchii was isolated from 26 victims. A non-haemolytic serological type 3/4 strain of Cl. Welchii was isolated from 24 of these cultures (including those from 3 fatal cases).

A full report of this investigation was published in the British Medical Journal, December 28, 1963. Further details are, however, given in the main body of this report.

SEWAGE

The sewage scheme which began in 1961 was finally completed in 1963. The surface water drainage covered the whole of Knutsford, whilst the additional foul water sewers were to cater for new development in the South and Nether wards. By the end of 1963, work commenced enlarging the Knutsford Sewage Works.

FOOD HYGIENE

Improvements to the Bexton Road School Canteen were undertaken during 1963 so as to bring it up to accepted standards. This means that all school canteens have been brought up to a high standard of hygiene. Forty milk samples were taken, all of which were classified as satisfactory, by the public Health Laboratory.

HOUSING

5 Time and place notices were served, resulting in 4 undertaking not to re-let being accepted and 1 property was reconditioned. A start was made during the year on the Site Works for 20 Houses for re-housing the tenants from slum properties, which can then be demolished.

IMPROVEMENT GRANTS

Although only 7 discretionary and 7 standard grants were given in 1963, this was due to the fact that owners who were entitled to apply did not avail themselves of the facilities despite the fact that every encouragement to do so was given by the Knutsford Council.

CLOSET CONVERSIONS

It is very pleasing to report that the 26 properties due to be converted to water carriage systems were dealt with in 1963. This leaves only 4 to be converted and work of these commenced towards the end of 1963.

FLUORIDATION OF WATER SUPPLIES

The vexed problem of fluoridation of water supplies was considered by both Health Committee and Council in 1963. After a full debate in the Health Committee, it was decided not to approve the addition of fluoride to the water supplies at a concentration not exceeding 1 p.p.m.

However as Manchester is the water supplier for the area, it was finally incumbent upon them to decide whether or not to add fluoride to the water. They finally decided to defer their decision for a period of 2 years, and that is how the position rests at the time of writing this report.

Once again, I am grateful for the keen interest and support of members of the Health Committee, and for the loyalty and assistance extended to me by Mr. Butler and Mr. Darbyshire and other Staff of the Health Department during 1963.

In December 1963 Mr. Butler retired as Chief Public Health Inspector after 34 years of faithful and devoted service to Knutsford U.D.C. It is given to few men to serve so consistently for one Local Health Authority, but it is very pleasing to record that his expert services are not lost to the Council, as at the time of writing this preface, he has been returned to the Council as a Councillor for Nether Ward of Knutsford.

I wish him long life and many more years of active public service.

I am Ladies and Gentlemen,

Your obedient servant,

WILFRID H. PARRY.

Medical Officer of Health.

HEALTH EDUCATION

Publications by the Medical Officer of Health
during 1963

- | | | |
|-----|--|---|
| (1) | " The problems of Salmonella food poisoning" | The Medical Officer
18th. January 1963 |
| (2) | " Brucellosis and Milk Sampling" | The Medical Officer
28th. June 1963 |
| (3) | " Brucellosis or Undulant Fever" | The Nursing Times
22nd. November 1963 |
| (4) | " Salmonella food poisoning" | The Nursing Times
6th. December 1963 |
| (5) | " Outbreak of Clostridium Welchii
food poisoning" | The British Medical
Journal
28th. December 1963 |
-

PART 1.

GENERAL STATISTICS

Area of District.....	2485 acres.
Average Height above sea level.....	210 feet.
Registrar General's mid year estimate of population.....	9760
Number of inhabited houses (end of 1963) per rate book.....	3128
Rateable Value at 1st. April 1963.....	£ 324502
Sum represented by a penny rate 1st. April 1962.....	£ 1345

VITAL STATISTICS.

	<u>1963</u>	<u>1962</u>
<u>Live Births.</u>		
Number	157	155
Rate per 1000 population	15.1	16.0
Standardised Birth Rate per 1000 population	15.6	15.3
General Birth Rate (England & Wales)	18.2	18.0
Illegitimate Live Births per cent of total live births	1.9	3.9
<u>Still Births</u>		
Number	3	2
Rate per 1000 total live and stillbirths	18.7	12.7
Total live and still births	160	157
Infant Deaths (deaths under 1 year)	3	3
Infant Mortality Rates		
Total Infant deaths per 1000 total live births	19.1	19.3
Legitimate infant deaths per 1000 legitimate live births	19.1	20.1
Illegitimate infant deaths per 1000 illegitimate live births	0	0
Neo-natal Mortality Rate (Deaths under 4 weeks per 1000 total live births)	12.7	12.9
Early Neo-natal Mortality Rate (deaths under 1 week per 1000 total live births)	12.7	12.9
Perinatal Mortality Rate (still births and deaths under 1 week combined per 1000 total live and still births)	31.8	25.4
Maternal Mortality (including abortion)		
Number of deaths	0	0
Rate per 1000 total live and still births	0	0
Total deaths	217	251
Crude death rate per 1000 population	22.2	26.0
Standardised Death Rate per 1000 population	10.4	14.6
General Death Rate (England and Wales)	12.2	11.9
Deaths from Tuberculosis	0	0
Deaths from Cancer	22	30
Deaths from Accidents	9	1

The population figures given are for home population and the birth and death rates are based on this figure. The standardised rates are arrived at after allowing for the age and sex distribution of the population, thus giving a fairer comparison with those of other areas.

The death rate comparability factor is adjusted specifically to take into consideration the presence of any residential institution in each area. This makes provision for the deaths occurring in Cranford Lodge Hospital amongst the aged persons and thus gives a better comparison with the rate for the rest of the country.

PART II TABLES.

TABLE I

LIVE BIRTHS

1963

	<u>Legitimate</u>	<u>Illegitimate</u>	<u>Totals</u>	<u>1962</u>
Males	77	3	80	79
Females	77	0	77	76
	154	3	157	155

TABLE II

STILL BIRTHS

1963

	<u>Legitimate</u>	<u>Illegitimate</u>	<u>Totals</u>	<u>1962</u>
Males	2	0	2	1
Females	1	0	1	1
	3	0	3	2

TABLE III

DEATHS OF INFANTS UNDER 1 YEAR OF AGE

1963

	<u>Legitimate</u>	<u>Illegitimate</u>	<u>Totals</u>	<u>1962</u>
Males	1	0	1	3
Females	2	0	2	0
	3	0	3	3

TABLE IV

DEATHS OF INFANTS UNDER 4 WEEKS OF AGE

1963

	<u>Legitimate</u>	<u>Illegitimate</u>	<u>Totals</u>	<u>1962</u>
Males	1	0	1	2
Females	1	0	1	0
	2	0	2	2

The causes of the infant deaths were as follows:-

Cerebral Haemorrhage 1

Congenital Abnormalities 1

TABLE V

<u>Notifiable Disease</u>	<u>Number of Cases</u> <u>Notified 1963</u>
Scarlet Fever	1
Whooping Cough	4
Diphtheria (including Membranous Croup')	0
Measles (excluding Rubella)	218
Meningococcal Infection	0
Acute Poliomyelitis:-	
Paralytic	0
Non Paralytic	0
Acute Encephalitis:-	
Infective	0
Post Infectious	0
Dysentery	0
Ophthalmia Neonatorum	0
Puerperal Pyrexia	0
Smallpox	0
Paratyphoid Fevers	0
Enteric or Typhoid Fever (Exc.Paratyphoid)	0
Food Poisoning (Exc dysentery typhoid and paratyphoid fevers)	41
Tuberculosis:-	
Respiratory	0
Other	0
Erysipelas	0
	<u>264</u>
1962	8

TABLE VI

Number of new cases of Tuberculosis notified
during the year ended 31st.December 1963

0

Comparative Table of Cases of Tuberculosis
notified during the past 10 years.

1953 - 5	1958 - 3
1954 - 6	1959 - 1
1955 - 1	1960 - 6
1956 - 3	1961 - 0
1957 - 1	1962 - 0

TABLE VII

Deaths from Tuberculosis registered
during the year ended 31st.December 1963

0

TABLE VIII

DEATHS REGISTERED DURING THE CALENDAR YEAR 1963 AND CAUSES

	<u>Male</u>	<u>Female</u>	<u>Total</u>	<u>1962</u> <u>Totals</u>
All causes (Certified 217) (Uncertified 0)				
Tuberculosis, respiratory	0	0	0	0
Tuberculosis, other	0	0	0	0
Syphilitic Disease	0	0	0	0
Diphtheria	0	0	0	0
Whooping Cough	0	0	0	0
Meningococcol Infections	0	0	0	0
Acute Poliomyelitis	0	0	0	0
Measles	0	0	0	0
Other infective & parasitic diseases	0	0	0	0
Malignant neoplasm, stomach	2	3	5	8
Malignant, neoplasm, lung bronchus	1	0	1	3
Malignant neoplasm, breast	0	4	4	2
Malignant neoplasm, uterus	0	2	2	0
Other malignant and lymphatic neoplasms	5	4	9	17
Leukaemia, aleukaemia	0	1	1	3
Diabetes	0	0	0	2
Vascular lesions of nervous system	22	20	42	68
Coronary disease, angina	19	11	30	32
Hypertension with heart disease	0	1	1	2
Other heart disease	9	23	32	42
Other circulatory disease	5	2	7	6
Influenza	0	2	2	2
Pneumonia	3	6	9	6
Bronchitis	7	11	18	17
Other diseases of respiratory system	3	0	3	0
Ulcer of stomach and duodenum	2	1	3	0
Gastritis, enteritis, and diarrhoea	1	1	2	1
Nephritis and nephrosis	0	0	0	0
Hyperplasia of prostate	1	0	1	2
Pregnancy, childbirth, abortion	0	0	0	0
Congenital malformations	1	0	1	1
Other defined and ill-defined diseases	10	22	32	34
Motor vehicle accidents	4	3	7	0
All other accidents	0	2	2	1
Suicide	0	3	3	2
Homicide and operations of war	0	0	0	0
1963 Total	<u>95</u>	<u>122</u>	<u>217</u>	<u>251</u>
1962 Total	117	134	251	

The majority of deaths are those associated with old age i.e. with the cardio vascular system and cancer in its various forms.

TABLE IXCOMPARATIVE FIGURES OF VITAL STATISTICS.

<u>Year</u>	<u>Total Population</u>	<u>Total Births</u>	<u>Birth Rate</u>	<u>Total Deaths</u>	<u>Death Rate</u>	<u>Deaths of Infants under 1 year</u>
1911	5983	113	22.0	63	12.3	9
1915	5378	94	19.1	62	12.3	6
1920	5035	107	21.2	65	12.9	7
1925	5499	69	12.5	45	8.3	4
1930	5846	84	14.2	50	8.5	5
1935	5681	61	10.7	58	10.2	2
1940	6306	77	12.2	80	12.7	3
1945	5620	95	16.9	74	13.2	6
1950	6357	90	14.2	67	10.5	0
1951	6576	100	15.2	90	13.7	0
1952	6530	90	13.8	124	19.0	1
1953	6805	105	15.4	157	11.0	0
1954	7090	101	15.0	233	13.3	2
1955	7200	98	14.4	240	10.8	3
1956	7470	96	12.8	211	11.3	2
1957	7720	132	17.1	175	11.1	3
1958	7980	129	15.8	203	14.6	4
1959	8870	144	15.4	194	13.1	5
1960	9400	175	17.3	205	13.1	8
1961	9460	176	17.3	203	12.3	6
1962	9670	155	15.3	251	14.6	3
1963	9760	157	16.6	217	10.4	3

From 1951 onwards the total deaths include those of non-Knutsford residents occurring in Cranford Lodge Hospital, i.e. long stay cases of chronic sickness.

From 1953 onwards the death rate is that estimated for Knutsford residents only (i.e. Excluding deaths of non-Knutsford residents in Cranford Lodge Hospital).

CLOSTRIDIUM WELCHII FOOD POISONING

An outbreak of *Clostridium Welchii* food poisoning occurred at Cranford Lodge Welfare Home/Geriatric hospital, Knutsford, during the evening of Saturday and the early morning of Sunday, December, 29-30, 1962. Forty-one elderly persons suffered severe gastro-enteritis: 25 (60.9%) were patients in the hospital and 16 (39.1%) were inmates of the Welfare home. There were 3 fatal cases among the hospital victims. No cases occurred among the staff.

A full report of this outbreak was published in the British Medical Journal (December, 28th, 1963. Vol ii, p 1616 -1619) and the following details have been extracted from that report.

The hospital victims were from three wards:

Ward	Persons Affected	Persons at Risk
Egerton	13 (2 fatal)	30
Toft	8 (1 fatal)	30
Tatton	4	17
Total	25 (32.5%)	77

The Welfare victims were also from three wards:

Ward	Persons Affected	Persons at Risk
C1	4	51
B1	11	47
B2	1	27
Total	16 (12.8%)	125

There were 28 female and 13 male patients affected: the average age for both groups was 79. The youngest was 48 and the eldest 95. Their clinical illness consisted of severe diarrhoea in all cases, abdominal pain in 13 cases, and vomiting in only 4. The onset started some 12-24 hours after the Saturday midday meal. The duration of illness averaged between 24 hours and 7 days, the average being 3 days.

TREATMENT

At the first symptom of enteritis on the Sunday all cases received $\frac{1}{2}$ fl. oz. (14 ml.) of kaolin and morphine mixture B.P.C. either two or four-hourly for 24 hours: dosage depended on severity of symptoms. Next day the treatment was changed to oral guanimycin (Allen and Hanburys) in doses of 4 fl. oz. (114 ml.) (streptomycin sulphate 1 g. sulphaguanidine 8 g.) daily for five days. Exceptions to this therapy were the first two fatal cases, in which death occurred before the change to guanimycin.

FATAL CASES

Two of the hospital victims died on Sunday, December 30: the third died on Thursday, January 3. Post-mortem examinations were performed on the first two victims on January 1, 40 hours after death. Details are as follows:

Case 1. - Man aged 81. Gastroenteritis started at 4 a.m. on Sunday. Death occurred at 5.55 p.m. the same day. Necropsy showed distension of large bowel: congestion and injection of wall of small bowel: fluid faecal contents in small and large bowels, with some residual solid faecal material in lower part of large bowel; marked frothiness of contents of large bowel. *C. welchii* isolation from wall of large bowel, terminal ileum, small bowel, and contents of large bowel. No organisms of the staphylococcal, dysentery, or salmonella groups isolated. The immediate cause of death was certified as acute gastroenteritis. There was also evidence of cerebrovascular arterio-sclerosis. His normal expectation of life would have been 12 months.

Case 2. - Woman aged 48. Gastroenteritis began at 4 a.m. on Sunday. Death occurred at 8 p.m. the same day. Necropsy showed distension of large bowel; marked congestion and injection of the wall of the jejunum and ileum: fluid faecal contents in small and large bowel. *C. welchii* isolated from small bowel, terminal ileum, and large bowel. A light growth of *Staph. aureus* isolated from large bowel. No organisms of the dysentery or salmonella groups isolated. Immediate cause of death was certified as acute gastroenteritis. There was also evidence of post-encephalitic parkinsonism. This condition was so advanced that her expectation of life was only a further 6 months.

Case 3. - The third fatality was a man aged 85 who suffered from severe gastro-enteritis during the night of December 29. He recovered from the immediate effects of the gastroenteritis, but was so weakened that he died of heart failure at 8 a.m. on January 3. *C. welchii* together with a light growth of *Staph. aureus* were isolated from his faeces. No organisms of the dysentery or salmonella groups were found. His expectation of life was approximately the same as Case 1: 12 months.

Meal consumed.

Examination of the menu for the 48 hours preceding the onset of the outbreak showed that the Saturday midday meal was probably responsible for the food-poisoning. This meal consisted of cold sliced or minced ham, carrots, creamed potatoes, rice pudding, and jam. There was a choice of roast chicken as an alternative to the ham. Of the 202 patients at risk, 72 (35.6%) had eaten ham and 130 (64.3%) had eaten chicken. Those who ate chicken had no illness, while 41 (56.9%) of the 72 who ate ham developed gastroenteritis. Twelve of the more seriously ill hospital victims, including the 3 fatal cases, ate minced ham covered with hot onion sauce.

Preparation of Ham.

The ham had been prepared as follows: Six sides of mild-cured Danish greenback bacon were delivered to the kitchen from a local grocer in Knutsford on December 22, 1962. It was refrigerated for six days. On Friday, December 28, the bacon was removed from the refrigerator. Three hams were cut off from three separate sides of bacon: boned, rolled, and boiled for three hours: then cooled off for one hour in the kitchen, skimmed, bread-crumbed, and returned to the refrigerator at 4 p.m. the same day. They were taken out of the refrigerator at 11.30 a.m. the following day, sliced or minced, and served for lunch from midday onwards, until 1.30 p.m. Minced ham covered with hot onion sauce was served to those experiencing difficulty in masticating their food. This onion sauce had been prepared at 9 a.m. on Saturday from dehydrated onions, fresh milk, and cornflower. It was heated for 1½ to 2 hours, and allowed to come to the boil. The sauce was added to the minced ham before being placed in the food trolley.

No remnants of the suspected meal were available as at the end of each day it was the practice to destroy left-overs from meals, but slices from another ham in the kitchen were sent for examination.

Cooling Temperatures of the Ham.

If ham was the vehicle of infection, then the cooling period immediately after cooking, and until refrigeration occurred, was probably the vital period during which *Cl. welchii* could have multiplied. An experiment was devised whereby the time taken for the temperature within the ham to cool to 50° F. (10° C) could be ascertained.

A ham of similar size was cooked in the same way as those used for the suspected meal. A recording thermometer was inserted into the ham on its removal from the boiler, so that the bulb was at the centre of the ham. The cooling temperatures over a four-hour period were recorded as follows.

Temperatures at Centre of Ham.

When removed from boiler	..	..	..	..	162° F.	(72.2°C)
After $\frac{1}{2}$ hour's cooling in kitchen	..	..	..	..	146° F.	(63.3°C)
" 1 " " " "	..	..	..	..	138° F.	(58.8°C)
" $\frac{1}{2}$ " " refrigerator	..	..	..	..	128° F.	(53.3°C)
" 2 " " "	..	..	..	..	64° F.	(17.7°C)
" 3 " " "	..	..	..	..	50° F.	(10° C)

The air temperatures recorded in the kitchen and the refrigerator during this experiment were 59° F. (15° C.) and 38° F. (3.3° C.) respectively.

Food Trolleys

There is one central kitchen for both hospital and welfare home. To take food from the kitchen to the various wards insulated food trolleys are used. These trolleys consist of a warm upper and cold lower section. It was the practice to connect them to the electricity mains about one or two hours before use. On the day in question the power was switched on at about 10.15 a.m.; so that the trolleys were heated for $1\frac{1}{4}$ hours before the food was placed in them at approximately 11.30 a.m. The food was served from the trolleys from about 12 noon onwards until 1.30 p.m. The ham was placed in the cold lower section.

Examination of the trolleys after the food-poisoning incident showed that in three of them the lower sections were warmer than in the others. Two of these trolleys had been used in the hospital wards affected by the gastroenteritis. They were tested. In both, the temperature in the lower cold section recorded at the start of the test was 40° F. (4.4° C.) After one hour the temperature in one trolley rose to 65° F. (18.3° C.) and in the other to 50° F. (10° C). After two hours the temperatures rose to 84° F. (28.8° C) respectively.

Examination of the hospital records showed that both trolleys were 20 years old. They were dismantled, and it was found that the cork packing used for insulation had crumbled away and was in the bottom third of the compartments. This may account for the unusual temperatures recorded.

There seemed to be a relation between persons affected and the time of serving the meal in that 35 (85.3%) of the victims were served from 1 p.m. to 1.30 p.m.) that is, between $1\frac{1}{2}$ and 2 hours after the food was placed in the trolleys.

Bacteriological Results

The slices of ham were negative for *Cl. welchii*, but, in any event, the actual ham suspected to be the vehicle of infection was not available for examination.

Samples of stools from the victims and eight kitchen staff were negative for organisms of the dysentery or salmonella group. Heat-resistant *C1. welchii* were isolated from 26 of the victims (stools of 23 living victims and one fatal case, and large-bowel specimens at necropsy of two of the fatal cases). These cultures were sent to the Central Public Health Laboratory, Colindale, for typing. Examination showed that 24 were non-haemolytic heat-resistant strains of Hobb's serological type 3/4 *C1. welchii*. The other two strains differed: one was a non-haemolytic type 7, the other a B-haemolytic strain not in the serological group 1-13.

In addition *Staph. aureus* of phage types 3A/3B/3C/55 +, 29+, 29/52/52A/80, and 29/52 were isolated from the bowels of the three fatal cases and one other victim.

Stool specimens and hand and nasal swabs from the kitchen staff were negative for *C1. welchii*. *Staph. aureus* was isolated from nasal and hand swabs of three of the kitchen staff, the phage types being 29+.81/6/7/47/53/54/75/42E+, and 29/52/80/77. Strain 81/6/7/47/53/54/75/42E+, is a group 111 strain and could be considered a potential food poisoning strain. It was isolated also from the nasal and hand swabs taken from the assistant chef. As it was not isolated from the faeces of the victims it can surely be disregarded. None of the other *Staph. aureus* strains can be regarded as typical food-poisoning strains.

Conclusions

In this outbreak of *C1. welchii* food-poisoning ham was the food common to all victims and was considered to be the vehicle of infection. If this hypothesis is a correct one then there are two factors which may have encouraged growth of *C1. welchii* in the ham. (1) The four-hour period taken by the ham to cool to 50°F. (10°C) after removal from the boiler (one hour in the warm kitchen and three hours in the refrigerator), as shown in the experiment. (2) The additional re-warming of some of the ham in the defective food trolleys pending and during transport to the wards.

The cooling experiment showed that during the first hour in the kitchen the temperature within the centre of the ham fell 24°F (13.4°C) from 162°F. (72.2°C.) to 138°F (58.8°C) before the ham was placed in the refrigerator. Growth of *C1. welchii* would be encouraged during this period and probably continued in the refrigerator.

The following day ham was taken from the refrigerator and sliced or minced. Hot onion sauce was added to the minced ham in the kitchen. These foods were placed in the food trolleys at 11.30 a.m. in the kitchen, being served in the wards from 12 noon until 1.30 p.m. Examination of the food trolleys showed that those sent to two of the three hospital wards involved had defective lower cold section when tested: temperatures from 50° to 65° F. (10° to 18.3°C) after one hour, and 83° to 84° F (28.3° to 28.8° C) after two hours were recorded. It seems likely that further multiplication of *C1 welchii* present in the ham may have occurred during this period. It is interesting to note that 35 (85.3%) of the victims were served 1½ to 2 hours after the food was placed in the trolleys.

The majority of cases (60.9), including the three fatal cases, occurred in the hospital wards, and 32.4% of those at risk were affected. In comparison, only 39.1% of the victims were from the welfare wards, and they comprised but 12.8% at risk. That the hospital victims were more seriously affected is probably due to two factors: (1) They were in a lower state of health, and as such would be a more susceptible group. (2) The defective hospital food trolleys may have been a factor in encouraging growth in the minced ham and onion sauce. (Twelve of the more seriously ill victims, including the three fatal cases, ate minced ham covered with onion sauce).

Heat-resistant non-haemolytic *C1, welchii* of serological type 3/4 were identified from 24 of the 26 positive *C1. welchii* isolations from victims in this outbreak. These are regarded as food-poisoning strains and it would appear that they were the type that could cause an outbreak.

Two different strains of C1. welchii were also found in two of the victims. It seems probable that these were carriers and the finding was incidental to the main results.

Although a fairly high carrier rate of C1 welchii has been shown to exist in communities, it is far more likely that the ham concerned in the present outbreak arrived at the kitchen already contaminated. The original source of the C1 welchii may have been the slaughterhouse, curing-tank, or some other place en route.

Despite the observance of a high standard of personal hygiene, C1. welchii can often enter the kitchen on raw meat contaminated from many sources. It has been shown that spores will survive boiling, stewing, and light roasting, particularly on the inner side of rolled joints, and germinate into actively growing bacilli.

Preventative measures concerned with the cooking and storage of meat dishes can be summarised as follows: In general they should either be cooked and immediately eaten hot or cooled rapidly and refrigerated within one and a half hours until required. When there must be unavoidable delay in the distribution of cooked sliced meat, the portion should be kept at a temperature either above 140° F (60°C) or below 59°F (15°C).

I was given considerable help in the investigation of this outbreak by both Mr. Reg. Butler (Chief Public Health Inspector and Surveyor) and Mr. P. Darbyshire (Public Health Inspector) together with the various consultant specialists (Dr. Betty Hobbs, Dr. Anne White (Medical Research Council): Dr. J. D. Abbott (Manchester Public Health Laboratory Service): Dr. R. C. Jennings (Pathology Dept., Altrincham General Hospital) and Dr. J. N. Greenwood (Consultant Geriatrician).

National Health Act Services and Services
provided by the Cheshire County Council

Services provided in accordance with the requirements
of the National Health Service Act, 1946

1. Hospital Services

Controlling Body	- Manchester Regional Hospital Board.
Local Hospitals	- Administered by North and Mid-Cheshire Hospital Management Committee. Secretary- Mr.E.Foden, Administrative Offices, Altrincham Maternity Home, Sinderland Road, Altrincham.

2. Hospitals serving this area

General Acute Cases	- Cottage Hospital, Knutsford. Altrincham General Hospital.
Maternity Hospital	- Cranford Lodge, Knutsford - 10 beds
General Chronic Cases	- Cranford Lodge, Knutsford.

A large number of cases from Knutsford are also treated in Manchester and District Hospitals.

3. General Practitioner and General Dental Services

Controlling Body	- National Health Service Executive Council for Cheshire.
Clerk	- Mr.F.Hayter, 28 Nicholas Street, Chester.

4. Services of Local Health Authority - Cheshire County Council

1. Ambulance Service	}	Altrincham, Divisional Health Committee.
2. Immunisation and Vaccination		
3. Care and after care		
4. Home Help Service		
5. Maternity and Child Welfare	}	County Council Health Committee.
6. Domiciliary Midwifery and District Nursing.		
7. Dental Service- Expectant and Nursing Mothers and Pre School Children.		
8. Mental Health Service- Mental Welfare Officers:		
Mr. Thompson	}	5 School Road, Sale.
Mr. Hopkinson		
Miss Jones		

The Divisional Health Committee area covers Hale U.D.C., Bowdon U.D.C., Altrincham M.B., Knutsford U.D.C. and Bucklow R.D.C. and includes members of these Authorities, members of the County Council and co-opted members.

Divisional Medical Officer and District - Dr.W.H.Parry, M.D., D.P.H., D.T.M & H.
M.O.H. for the above districts. from March 1962 onwards.

Other Services by other Committees of Cheshire County Council

- | | |
|----------------------------------|---|
| 1. Education Committee | - School Health Services, including School Dental Service. |
| 2. Welfare Committee | - Old persons care and attention, homeless, handicapped persons, provision for residential accommodation - County Welfare Officer- Mr. Evans, County Hall, Chester. |
| 3. Children's Committee | - Provides for the care of deprived children, i.e. children not under parental care. |
| Children's Officer for this area | - Mr. J. Blades, 53/55 George Street, Altrincham. |

Services available in Knutsford.

- | | |
|---|--|
| 1. Maternity and Child Welfare Clinic, Immunisation and Vaccination | - County Offices, Bexton Road, Knutsford. Every Wednesday at 2 - 4 p.m. |
| 2. Young Peoples Clinic | - Fourth Thursday afternoon in each month- 2.0 p.m. - 4.0 p.m. by appointment. |
| 3. Hearing Clinic | - Alternative Fridays by appointment. |
| 4. <u>School Clinic- County Offices, Bexton Road, Knutsford.</u> | |
| (a) Minor Ailments Clinic | - Monday, Tuesday, Wednesday, Thursday and Friday, 9.0.- 10. a.m. as required. |
| (b) Doctors Session | - By appointment as required. |
| (c) Dental Clinic | - Each Tuesday morning and afternoon. |
| (d) Eye Clinic | - First Thursday and Fourth Tuesday Afternoon each month, by appointment. |
| (e) Speech Therapy Clinic | - Each Tuesday by appointment. |
| (f) Teacher for the Deaf | - Monday afternoon as required |
| 5. Health Visitors | - Nurse Dawson, County Offices, Bexton Road, Knutsford.
Nurse Pickford, County Offices, Bexton Road, Knutsford. |
| 6. District Nurses and Midwives | - Nurse Tierney, 1, Westfield Drive, Knutsford.
Nurse Stone, 22 Townfields, Knutsford. |
| 7. Relief District Nurse and Midwife | - Nurse Buckley, 7, Ascol Drive, Plumley, Nr. Knutsford. |
| 8. Ambulance Station | - Manchester Road, Altrincham- Altrincham 3256. |

All enquiries in connection with the above services should be made to:-
Dr. W. H. Parry, Medical Officer of Health, The Mount, Altrincham.
Tel. Altrincham 5323/4.

SANITARY CIRCUMSTANCES OF THE AREA.

WATER SUPPLY.

The Statutory Undertaking for the supply of water to the Urban District is the Manchester Corporation Waterworks Department and I am indebted to the Engineer and Manager for the following information:-

"Knutsford has been supplied with mixed Thirlmere and Haweswater water. Typical analysis is as follows:-

JANUARY TO DECEMBER 1963.

TYPICAL CHEMICAL ANALYSIS (as taken from house Taps).

pH value	...	...	7.0
Colour as p.p.m. platinum	...	...	15
Turbidity,p.p.m. silica scale	...	...	1.1
<u>Parts per million</u>			
Total solids dried @ 180°C	...	...	38
Free acidity as C.O. ₂	...	...	2
Alkalinity as Ca CO ₃	...	...	15
Total hardness as CaCO ₃	...	...	25
Chlorides as C.I. ₂	...	...	7
Oxygen absorbed test			
4 hours @ 27°C	...	...	1.29
Silica as SiO ₂	...	...	2
Iron as Fe	...	...	0.06
Mangan-ese as Mn.	...	...	0.01

The water supply is liable only to slight variations during the year.

Thirlmere water is neutralised with hydrated lime at the head works so as to give a pH value around 7 in the town area. Haweswater has a similar pH value without neutralisation. The mixed water contains less than 0.2 p.p.m. lead after standing in contact with lead service pipes overnight.

There was an outbreak of diatoms, *Asterionella*, in Haweswater in the early spring and for a number of weeks the turbidity was higher than normal, around 2 p.p.m.

Two hundred and fifty four (254) bacteriological samples were collected in the south-western distribution area during the year with the following results:-

Total number of samples	254	
Samples free from coliform bacteria	244	96.1%
Samples free from faecal B coli	253	99.6%
Samples with faecal B coli present	1	0.4%
Samples with non-faecal B coli present	10	3.9%

SAMPLES WITH COLI PRESENT

Number of coli present in 100 mls of water	<u>Types of coli present</u>			
	<u>Faecal coli</u>		<u>Non-Faecal coli</u>	
	No. of samples	per cent.	No of Samples	per cent
1	1	0.4	9	3.5
5	0	0	1	0.4
	1.	0.4	10	3.9

The above coliform bacteria were derived from "aftergrowths" in deposits in mains. On the same days as the 10 samples with coli present were taken, 35 other samples were also taken and these were coli-free and excellent.

The water supply has been of excellent chemical and bacteriological quality throughout the year.

REFUSE COLLECTION.

The Council operate a weekly collection of House Refuse throughout the whole of the district, with the exception of August week, when the Department is closed down for a week whilst the crews take part of their Annual Holiday and major repairs are carried out to the vehicles.

Two Karrier "Dual Tip" vehicles are used for the service. One of 18 Cu.Yd. capacity and the other 12 Cu.Yd. The smaller vehicle was delivered in March and replaced ~~for~~ S & D side loader.

Refuse Disposal

All refuse is disposed of by controlled tipping at the Shaw Heath Tip where one full time Attendant is employed. A Bristol Caterpillar Tractor is used for Tip Control and although this has its limitations the Tip has been maintained in a satisfactory condition. A new and more convenient access has been provided to the Tip as the existing one is now remote from the Tip face.

SALVAGE.

A separate collection of Waste Paper was provided at Business Premises during the year and the following Table shows the amount and value of waste paper collected compared with the previous year :-

	Tons. Cwts. Qrs.			£. s. d.		
1963	38	3	3	245.	1.	10
1962	40	4	3	275.	1.	1

Over the past few years the amount and value of waste paper salvage has declined progressively and a further reduction in price was announced during the year. This together with difficulty in finding suitable labour for baling paper calls for the situation to be reviewed, and this will be done early in the next year.

SEWERAGE & SEWAGE DISPOSAL

All the sewerage from the Urban District with the exception of a small area East of King Street, which is pumped through a rising main into the King St.Sewer, is carried by gravitating Sewers to the disposal works on the bank of the Birkin Brook on the North East Boundary of the Town.

In 1961 work began on a new Sewerage Scheme to be carried out in the following stages:-

- (1) The laying of additional Sewers and Surface Water Drains to obviate flooding.
 - (2) The laying of additional Sewers to provide for further development.
 - (3) Major Reconstruction to modernise and enlarge the Sewage Disposal Works.
- Stages 1 and 2 were completed during the year, and the Contractor has now made a start on stage 3.

HAIRDRESSERS AND BARBERS

Eight establishments are registered for the purpose of the Cheshire County Council Act, 1953.

OUTWORKERS

One resident in the area was notified as an outworker, in the making of wearing apparel, and the circumstances found to be satisfactory.

MOKE ABATEMENT

No change has taken place with regard to the Industrial Boiler Installations, two being oil fired and one equipped with mechanical stokers.

None of these gave cause for complaint during the year.

RODENT CONTROL

The Council have one part-time operator who has been trained in rodent control by the Ministry of Agriculture, Fisheries and Food, and domestic properties are treated free of charge.

The following table gives details of infestations and treatments carried out during the year :-

	Local Authority	Private	Business and other	Totals of Cols. 1.2.3.	Agricul- ural.
Number of properties in Local Authy's District	-	2974	370	3344	12
Properties inspected as a result of :-					
(a) Notification	-	28	21	49	1
(b) Survey under the Act	8	71	41	120	-
(c) Otherwise	8	64	46	118	5
Properties found to be infested by:					
(a) Rats (Major & Minor)	3	24	17	44	1
(b) Mice (Major & Minor)	2	12	6	20	-
Infested Properties treated by the L.A.	5	36	23	64	1

RODENT INFESTATION

During the year 2 treatments were carried out for the eradication of cockroaches and informal action was taken in one case to clean up a house which was in a most unsatisfactory condition.

FOOD AND DRUGS ACT 1955

The Cheshire County Council are the Authority for the taking of samples under the above Act and I am indebted to Mr. Howard Hughes, Chief Weights and Measures Inspector, for the following details of samples taken in the district during the year :-

<u>SAMPLES TAKEN</u>	<u>NUMBER</u>	<u>NUMBER OF NOT STANDARD SAMPLES</u>
Cabbage.....	2	-
Castor Oil B.P.....	1	-
Cooling Powders.....	1	-
Cream of Tarter.....	1	-
Cream (Double T.T.).....	1	-
Fat (pure)	1	-
" (cooking)	1	-
Gin	1	-
Iodine (tincture).....	1	-
Lettuce	1	-
Milk (fresh).....	16	-
" (full cream evaporated)	1	-
Mushrooms	1	-
Pepper (white)	1	-
Sausages	1	-

PARTICULARS OF ADULTERATED NON STANDARD SAMPLES

- N I L

PARTICULARS OF COMPLAINTS FROM PRIVATE PURCHASERS

- N I L -



MILK SUPPLY

There are four distributors of Milk operating from premises in the district, all of which obtain their Milk already bottled from the larger establishments outside the area.

Forty samples of Milk were taken by the County Council for submission to the Public Health Laboratory and upon examination all of these were found to be satisfactory.

One complaint was received regarding the quality of Milk supplied to an individual, and two was dealt with by the County Council.

INSPECTION OF MEAT & OTHER FOODS.

There are Two Licensed Slaughterhouses in the Town Licensed Annually on 1st.July The pattern of slaughtering is consisent and both maintain a high standard of hygiene.

On 1st.October the Meat Inspection Regulations came into force empowering the Council to make charges for Meat Inspection. The Council discussed this matter with th Two Butchers concerned and agreed,for the sake of simplified Administration,for this to be carried out on a Contract Basis, this being based on approximately half of the maximum charges permitted by the Regulations.

The following Table shows the number of carcases inspected and the number affected with disease:-

	Cattle Excluding Cows	Cows	Calves	Sheep and Lambs	Pigs
Number killed	569	0	8	2244	8
Number inspected	569	0	8	2244	8
All diseases except Tuberculosis and Cysticercosis	0	0	0	0	0
Whole carcases condemned					
Carcases of which some part or organ was condemned	33	0	0	22	0
Percentage of the number inspected affected with disease other than Tubercul- osis and Cysticercosis	5.8%	0	0	0.98%	0
Tuberculosis only					
Whole carcases condemned	0	0	0	0	0
Carcases of which some part or organ was condemned	0	0	0	0	0
Percentage of the number inspected affected with Tuberculosis	0	0	0	0	0
Cysticercosis					
Carcases of which some part or organ was condemned	0	0	0	0	0
Carcases submitted to treatment by refrigeration	0	0	0	0	0
Generalised and totally condemned	0	0	0	0	0

In addition the following Foodstuffs were condemned as being unfit for Human Consumption:-

Jam ... 16 Jars.	Peas ... 12 Tins	Tongues ... 3 Tins
Corned Beef ...2 Tins	Liver ... 2 Tins	Jellied Veal 1 Tin
Pork Luncheon Meat 1 Tin	Liquid Egg 1 Tin	Hindquarter Beef 25lbs.
Shoulder Steak 17 lbs.	Lamb ... 1 leg	Lamb 1 shoulder

SLAUGHTER OF ANIMALS ACT

12 Licences to slaughter in accordance with the above Acts were issued during the year.

FOOD HYGIENE

There are 83 Food premises in this district and improvements were carried out to 8 of these. The last of the School Canteens was brought up to proper standard of hygiene completing the programme commenced in the previous year.

CLOSET CONVERSIONS

During the year the work of converting the 26 waste water closets in the Moordale Road/Middle Walk area to flush type W.Cs. was completed. This was done in accordance with Section 47 of the Public Health Act, 1936 at the joint expense of the Council and the Owners. Similar proceedings have been instituted in respect of 4 Houses in Cranford Avenue and this work was commenced at the end of the year.

This completed the programme of Conversion commenced in the previous year.

HOUSING - SLUM CLEARANCE

Notice of Time and Place in accordance with Section 16 of the Housing Act, 1957 was served in respect of 5 Houses and in one case the house was brought up to a proper standard, and in the other cases undertakings not to re-let were accepted.

The position at the end of the year with regard to the Council's Slum Clearance Programme is as follows:-

Houses Demolished	81	
Houses Closed	3	
Undertaking not to Re-Let Held	25	
Proceedings in hand	11	
Properties Reconditioned	13	<u>TOTAL 133</u>

The 20 Council Houses on which a start was made at the end of the year will be devoted to Re-Housing families from slum properties after which further demolition of condemned properties will take place.

NEW HOUSES

The number of New Houses completed showed a considerable decrease, only Two houses were completed by Private Developers as against 48 for 1962, but at the end of the year 57 were under construction.

In the latter part of the year the Site Works were begun on the 30 Houses to be built by the Council- 20 of which were for Slum Clearance purposes and 10 for Sale to selected Applicants.

IMPROVEMENT GRANTS.

7 Discretionary Grants were approved during the year 6 of which were for Improvements to existing Houses and one for the conversion of other buildings into a Dwelling. The total amount approved for Grant was £1570 a decrease of over £700 on the previous year. 7 applications for Standard Grants were received and approved and these covered the provision of 7 internal W.Cs, 3 Baths, 6 Wash Hand Basins, 4 Food Stores and a supply of Hot Water in 3 cases.

CERTIFICATES OF DISREPAIR

No Applications for Certificates of Disrepair were received and no action under the Rent Act was required.

CARAVANS.

There are no Licensed Caravans or Caravan Sites in the District.

FACTORIES ACT 1937

Inspection for the purposes of provisions as to health:-

PREMISES (1)	Number on Register (2)	NUMBER OF		
		Inspect- ions (3)	Written Notices (4)	Occupiers Prosecuted (5)
(1) Factories in which Sections 1,2,3,4 and 6 are to be enforced by Local Authorities	3	-	-	-
(2) Factories not included in (1) in which Section 7 is enforced by the Local Authority	31	24	3	-
(3) Other Premises in which Section 7 is enforced by the Local Authority (excluding out-workers' premises	2	1	-	-
TOTALS	36	25	3	-

